

SCIENTIFIC AMERICAN

Established 1845

An invitation to receive the 149-page book The Brain
plus an extra bonus on Personal Computers
FREE with your subscription.

Dear Reader:

I am pleased to send you this early word that the September 1984 issue of SCIENTIFIC AMERICAN will be devoted to the single topic of Software.

Because of your great interest in the computer and its uses, you will want to make certain that you obtain this issue when it comes off the press in August. If you are not now a subscriber, you can assure early receipt of this issue by starting your subscription now.

It is Software, of course, that tells a computer what to do. A computer will do anything we have the imagination, ingenuity and wit to tell it to do. It is by ever more elegant and powerful software, therefore, that we are making the misnamed computer realize its true identity as the Universal Machine. In the September issue of SCIENTIFIC AMERICAN, the world's leading writers, designers and philosophers of software will assemble a comprehensive picture of our progress toward that goal.

Our authors will consider programming at that fundamental level where it tests the foundation and limits of the thinking process... the diversity of computer operating systems and the hierarchies of languages that make the power of those systems accessible and responsive to our will and command... the new understanding of human language emerging from the development of software for working with words... software that models theory, carries it into simulated action and designs or obviates experiment... how information systems become themselves working models of the organizations that they serve... what software for working with images has done to make the computer "transparent," serving as a microscope to look at molecules or as a mind's eye to see a finished product before it is made... how the same design-software becomes the manager and coordinator of the manufacturing process, drives the machine tools and mates jigs and fixtures to the piece parts... software that learns from experience, forms purpose, makes choices and sharpens our concept of intelligence.

This is an issue of SCIENTIFIC AMERICAN you will want to keep on hand for reference as progress in software brings new capacities and new frontiers in reach of your own computer system(s), whether for work or for pleasure.

(Please see over)

Each month, enjoy "Computer Recreations"

Each monthly issue of this magazine brings you the unique column on "Computer Recreations." Here, computer scientist A. K. Dewdney sets up projects in the exercise of the higher capacities of the computer, including the personal computers now in the possession of more than one-third of our readers. The object: to make the computer an intimate extension of thought and imagination.

In "Computer Recreations" you will explore what the computer truly is and you will discover the remarkable enterprises in which the power of your own universal machine can be enlisted.

Introducing CORE WAR --
in which hostile programs engage in a battle of bits

In the May issue of SCIENTIFIC AMERICAN, the "Computer Recreations" column introduces you to CORE WAR, a new game unlike other games in that people do not play at all! In this inhuman game, the contending programs are written by people, of course. But once the battle gets underway the protagonists can do nothing but watch helplessly as their programs live or die on the screen. The contending programs stalk each other from address to address in the memory chips. Sometimes they go scouting for the enemy; sometimes they lay down a barrage of numeric bombs; sometimes they copy themselves out of danger or stop to repair damage. The outcome depends entirely on which program is hit first in a vulnerable area.

Join us at the frontiers of knowledge

With the monthly issues of SCIENTIFIC AMERICAN you will stay up-to-date on significant new work in all the sciences, in articles by the scientists who do the work and make the advances the articles are about.

In SCIENTIFIC AMERICAN you will read clear, authoritative articles written by the world's foremost scientists -- not popularized versions from secondhand sources. The close collaboration of our editors and artists assures that each article is accessible to you, the reader from outside the discipline involved. The author's story of discovery is told in the common language of educated men and women.

Nobel Prize-winner Authors

No less than 79 Nobel-laureate scientists have reported their work in SCIENTIFIC AMERICAN, almost all of them before they heard the good news from Stockholm. This record of editorial prescience is unparalleled in magazine publishing.

And the prescience continues at work today. In the current issues of SCIENTIFIC AMERICAN you will have the privilege of

seeing in advance the work of scientists who are the Nobel laureates of tomorrow.

Step by step, our readers have been kept abreast of all the great advances that have made the last three decades so momentous, including the revelation of the inner structure of the living cell... the unlocking of the genetic code and the advent of genetic engineering as a high technology... the discovery of continental drift and the dynamics of plate tectonics... the penetration of the structure of the fundamental particles... the archaeological discoveries of early man and the prehuman ancestors... the sudden arrival of solid-state electronics and the microcomputer... the fundamental advances in medical technologies... the expanding view of the solar system and, indeed, of the universe.

As a SCIENTIFIC AMERICAN subscriber, your interest will be engaged by our regular departments, too...

The Amateur Scientist Jearl Walker presents experiments that you yourself can perform.

Computer Recreations How the power of the computer opens new ways into the arts, the sciences and mathematics.

Science and the Citizen In-brief reports on the impact of new developments in science and technology.

50 and 100 Years Ago A look back at science as reported in SCIENTIFIC AMERICAN at the time.

Reviews of books Philip Morrison's alert and perceptive comments on new books from every field of science.

Bibliography Further readings in the subjects covered by the articles in each issue.

Significant discounts on books

As a subscriber, you will also be entitled to significant discounts on a full range of books from the catalogue of W. H. Freeman and Company, the science book-publishing affiliate of SCIENTIFIC AMERICAN -- including such titles as "Left Brain, Right Brain," "The Lighter Side of Gravity," "Black Holes and Warped Spacetime," "How to Solve Problems," "Machines Who Think," "DNA Replication" and "The Musical Experience."

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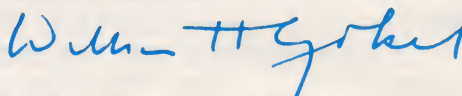
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\$6. A two-year term, at \$45, saves \$15. And the three-year term, at \$60, saves \$30.

We hope you will take this opportunity to stay up-to-date in all the sciences -- and to assure that you receive the September single-topic issue devoted to Software. Please note that the order form enables you to start your subscription with the May issue in which the "Computer Recreations" column introduces the new game, CORE WAR.

Cordially,



William H. Yokel
Circulation Manager

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P.S. FREE with your paid subscription -- these two bonuses:

The Brain With this book we offer you a new view of the most complex structure in the whole universe -- the human brain. In the past decade there has been a surge of new insights and discoveries in brain research. The authors of The Brain are scientists who made major contributions to these advances.

You will see how the brain is organized; how systems of neurons control such mechanisms as vision, movement and speech; how progress is being made in the understanding of disorders of the brain.

Personal Computers In this offprint from SCIENTIFIC AMERICAN, engineers whose work is at the leading edge of computer science present a unified account of the hardware, software and applications of personal computers. You will see how advances in the technology of microprocessing have made the interface between man and machine increasingly "friendly," making a wide array of computer functions available to people with no technical background.

As soon as payment for your subscription is received we will despatch to you these two bonuses: the 149-page book The Brain (regular price \$9.95) and the offprint Personal Computers.